

# Field-Based Raman Spectroscopy:

## Fentanyl and Methamphetamine Spectral Similarities

### Summary

It has been reported that scanning Methamphetamine samples has resulted in a very small number of false positive alarms for Fentanyl, typically when using the Type H kit or with wet methamphetamine. This is due to the spectral similarities between Fentanyl and Methamphetamine. We continue to investigate ways to reduce this possibility and will adapt to ensure our product meets the needs of the law enforcement community. Please note that the vast majority of Methamphetamine scans provide correct identifications in point-and-shoot mode.

Fentanyl is a high priority for some end users due to the increasing incidents of abuse and overdose deaths. At this time, based on user feedback and to ensure the safety of the law enforcement community, we believe that the capability to analyze Fentanyl and Heroin-Fentanyl mixtures outweigh the low potential of a false positive result.

### Technical Brief

Recent scans conducted on Methamphetamine samples have resulted in false alarms for Fentanyl in a few select cases. We continue our on-going investigations to remove/reduce the possibility of misidentifications which are due to the very similar spectral nature of Methamphetamine and Fentanyl, particularly when using a SERS Kit. Plotted below are the bulk and SERS (Type-H) spectra for Fentanyl and Methamphetamine.

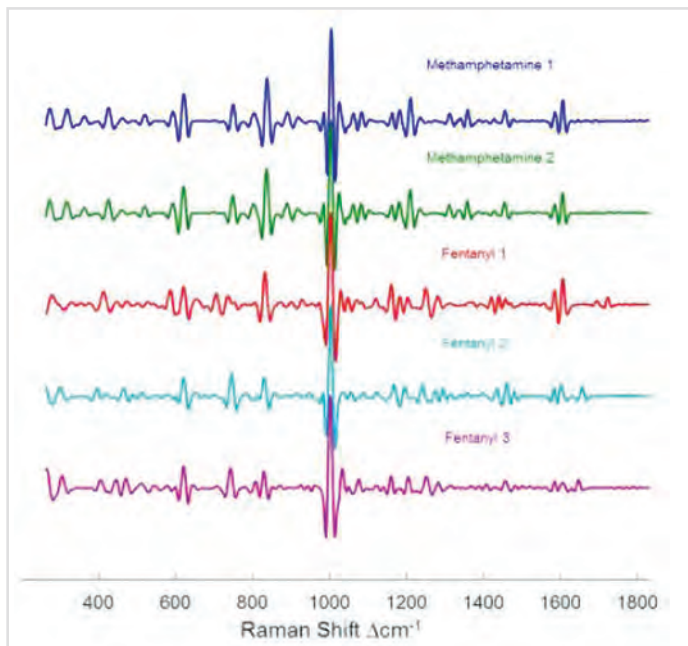


### Recommendations

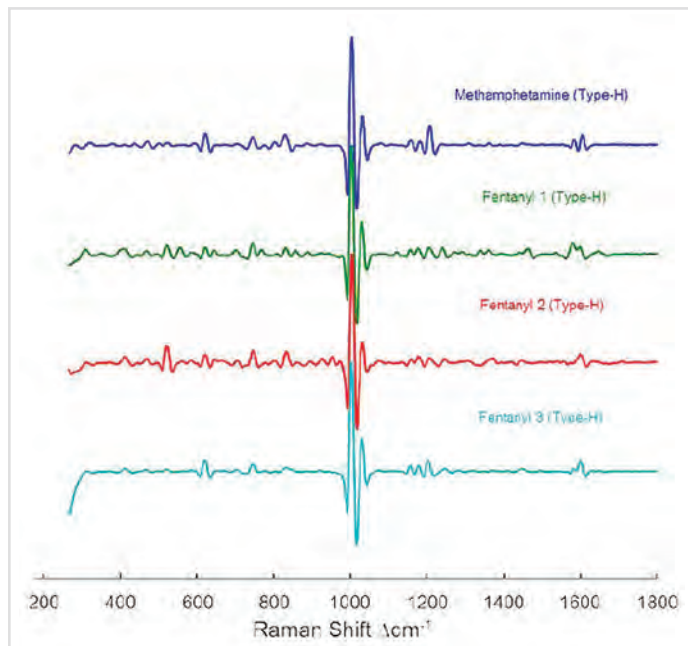
While we believe the possibility of receiving a false positive is very low, we want to inform our customers about the potential and provide the following recommendations:

- Scan using point-and-shoot mode when possible in accordance with your operational and safety protocols
- Scan multiple times at different points in the sample to address inconsistent composition
- If you obtain a Fentanyl result, we recommend using a secondary analysis technique, particularly if the sample and scenario aren't consistent with an expected Fentanyl result based on your training and experience

We continue to recommend that TruNarc is not a trace material detection system, there is always a possibility that other chemicals are present in the specimen at concentrations too low to be detected.



**Bulk Spectra**



**SERS Spectra**

We encourage you to verify TruNarc findings with secondary techniques wherever possible.

Find out more at [thermofisher.com/trunarc](https://thermofisher.com/trunarc)

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